MDPB Meeting May 26, 2004

Members: B. Collamore, K. Kendall, D. Ettinger, P. Liebow, D. Stuchiner, E. Smith, J. Bradshaw, S. Diaz

Guests: R. Petrie, D. Palladino, M. Choate, M. Day, K. Marston, S. Hludik, R. Tarbox, D. Batsie, J. Farrell, R. Chase, J. Caron, J. McKenney, A. Azarra, S. French, J. Latood, K. Kane, P. Marcolini, J. LeBrun, K. McGraw, L. Metayer, J. Regis

I. Approval of March 2004 Minutes; First by Smith, Second by Kendall, unanimous acceptance
II. Legislative Update: None
III. CP|AP: J. Latood presented the desire for United Ambulance to join with the study out of Falmouth. They would adopt the current study parameters, and update by D. Bastie suggests that they could use the increased numbers and that they would all work from the same program. First by Smith, Second by Kendall to go forward with this (I spoke with J. Burton who agrees with this and would like Bastie to work out the particulars with him re: United's inclusion).
IV. Protocols: The following protocols have been accepted for the next update—

Purple

Purple 2 "'AVPU' means Alert, responsive to Verbal stimuli, responsive to Painful stimuli, or Unresponsive."

Purple 3 "'Fluid Challenge' indicates…Specifically, running a large bore IV wide-open until 300-500 ml of fluid… until a BP greater than 90 mm/Hg systolic…"

Purple 4

Emergency Department

Third line down uses the word "sever" instead of the word "seven."

Other Appropriate Destination

Move the words "via ambulance" over 1 spot, to read "... means a facility that has been approved by the Board of EMS to receive via ambulance patients who are in need of

emergency care." Currently it reads "...means a facility that has been approved by the Board of EMS to receive patients via ambulance who are in need of emergency care."

Under MDPB, third line down says American College "or" Emergency Physicians -- this should read American College "of" Emergency Physicians.

Brown

Brown 1

Forward
1. "To provide the EMS provider with a quick field reverence," with a change of "reverence" to "reference."

Blue

Airway Management (Blue 1)
Pediatric Airway Algorithm

Patient with respiratory distress

Trial of oxygen therapy

- consider Albuterol Nebulizer if possibly a bronchospastic episode

If unable to maintain adequate oxygenation/ventilation

- consider suctioning, assess for foreign body or tongue obstruction
- consider placing nasal pharyngeal or oropharyngeal airway, and trial of bag-valve-mask support if deemed appropriate

❖ <u>BVM IS THE PREFERRED METHOD OF AIRWAY SUPPORT IN THE PEDIATRIC PATIENT</u>

↓

If still unable to maintain adequate oxygenation/ventilation

- consider orotracheal intubation;
- or nasotracheal intubation if no facial trauma or other contraindications

↓

If unable to intubate, reassess if maintaining adequate oxygenation/ventilation

- consider changing tube size and/or laryngoscope blade

↓

or

If still unable to intubate, again reassess if maintaining adequate oxygenation/ventilation

- consider using facilitating device if available such as gum elastic bougie, intubating stylet, tube changer, or digital intubation

↓

or

If this fails, reassess if maintaining adequate oxygentation/ventilation

- consider an attempt to place an LMA

↓

If this fails, reassess if maintaining adequate oxygenation/ventilation

- Consider surgical airway (Cricothyrotomy) only in those patients greater than 8 years of age with significant head, face and/or neck trauma or unrelieved upper airway obstruction. In general, a surgical airway is unlikely to benefit a pediatric patient without the aforementioned problems.
- Consider needle cricothyrotomy in patients that have epiglottitis or unrelieved upper

If successful, confirm placement and continuous monitoring:

- auscultation,
- chest wall movement,
- lack of air sounds over the stomach,
- end-tidal CO_2 or EDD,
- pulse oximetry.

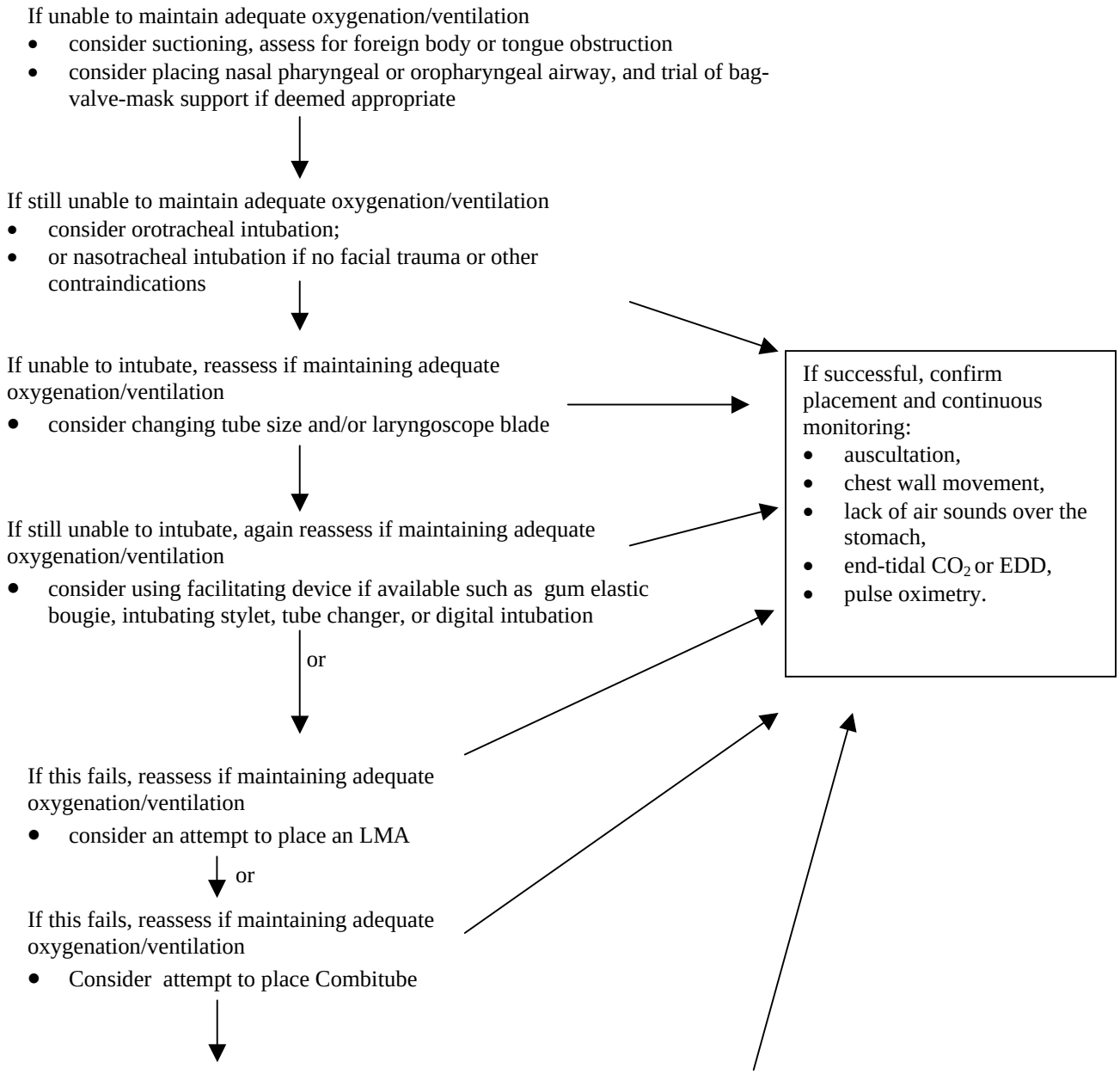
A

Patient with respiratory distress

↓

Trial of oxygen therapy

- consider Albuterol Nebulizer if possibly a bronchospastic episode



Re

Ba
[N

Intermediate
[No change}

Critical Care/Paramedic
9. Contact Medical Control for the following OPTIONS:
   A. Repeated or continuous Albuterol by nebulizer or inhaler
   B. Pediatric: Epinephrine 0.01 mg/kg (0.01 ml/kg of 1:1,000) IM to a maximum dose of 0.3 mg
   C. Adult: Epinephrine 0.3 mg IM of 1:1,000 solution every 20 minutes

Pulmonary Edema (Blue 5)

Basic
[No change}

Intermediate
(Should we change this to correspond with the Chest Pain protocol in re: to Intermediate therapy and TNG?)

Critical Care/Paramedic
(Contact Medical Control if patient has taken medications for Erectile Dysfunction within the past 72 hours before giving Nitroglycerin—do not give Nitroglycerin if you cannot contact Medical Control in these circumstances)
10. Nitroglycerin Nitroglycerin 0.4 mg or 1 spray SL. May repeat two times at 5 minute intervals if BP>100. If patient has had nitroglycerin before and no IV established, and systolic B/P > 100, then OK to give nitroglycerin.
11. Furosemide (Lasix) 40 mg IV. Contact OLMC for further options.
Contact Medical Control for the following OPTION
12. Morphine Sulfate 2-10 mg IV

Red

Red 1

CHEST PAIN
(Suspected cardiac origin)
Do not give nitro if patient has taken Erectile Dysfunction drugs during the past 72 hours.
Contact Medical Control for options.

BASIC
1. O2 – as appropriate
2. Treat for shock if indicated.
3. Request ALS if available.

4. If patient as not taken an aspirin and has no allergies: administer chewable aspirin 160 mg. (or 320 mg depending on hospital preference), PO, if not contraindicated by allergy, bleeding/anticoagulant history, or ulcer disease.

5. For EMT – Basic level providers – Contact Medical Control for the OPTION of assisting with the administration of patient's own nitroglycerin.

INTERMEDIATE

6. IV en route
7. Cardiac monitor
8. Contact Medical Control for administration of:
    a. nitroglycerin 0.4 mg SL or 1 spray SL. May repeat two times at 5 minute intervals if BP > 100. If patient has had nitroglycerin before and no IV established, and systolic B/P > 100, then OK to give nitroglycerin.
    b. Chewable aspirin, 160 mg. (or 320 mg depending on hospital preference), PO, if not contraindicated by allergy, bleeding/anticoagulant history, or ulcer disease.*

For EMT – Intermediates who have completed the update program and whose service has necessary medications available. "The Enhanced EMT-I, in consult with Local-On-Line-Medical-Control, may modify the Paramedic response as appropriate."

Critical Care/Paramedic

9. Nitroglycerin 0.4 mg or 1 spray SL. May repeat two times at 5 minute intervals if BP>100. If patient has had nitroglycerin before and no IV established, and systolic B/P > 100, then OK to give nitroglycerin.
10. Chewable aspirin, 160 mg or (320 mg depending upon hospital preference), PO, if not contraindicated by allergy, bleeding/anticoagulant history, or active ulcer disease.

11. Contact Medical Control for OPTIONS:
    c. Additional nitroglycerin.
    d. Morphine Sulfate 2-10 mg IV.
12. Treat underlying arrhythmias.
13. Obtain 12 lead EKG en route if equipment is available.

Red 3

Chest Pain Checklist

For chest pain of suspected cardiac origin, initiate therapy per protocol (Red 1 and 2), including the early use of aspirin and nitroglycerin if not contraindicated.
Use the Chest Pain Checklist or local equivalent if available. Report the information as soon as practical to the receiving ED.

1. Is systolic BP<180 mmHg?	**YES**	NO
2. Is diastolic BP<100 mmHg?	**YES**	NO
3. Has pain persisted for > 15 minutes?	**YES**	NO

4. CVA or other serious central nervous system problems in preceding 6 months?	YES	**NO**
5. Surgery or major trauma in preceding 2 weeks?	YES	**NO**
6. Any bleeding problems?	YES	**NO**
7. Pregnant?	YES	**NO**

You may copy and use this page as you check-list, or you may use a check-list recommended by your usual receiving hospital or region which contains at least these questions.

Red 5

Semi-Automatic External Defibrillator (AED)

(AED is intended for adults and children > 1 year of age. Before using in Children between 1-8 years of age, please refer to the following Pediatric AED use section. Contact Medical Control for any other situations).

1. Verify cardiac arrest, time of arrest, and request ALS if available.
2. Begin CPR while applying AED.*
3. Apply the leads, (no leads within 6 inches of pacemaker/defibrillator product) remove all medication patches from patient skin, clean skin, clear patient, and activate machine.
4. Follow AED machine's instructions and deliver up to three (3) shocks, if needed. For AED which asks the operator to set shock level, use 1st shock: 200J, 2nd shock: 200-300J, 3rd and subsequent shocks 360J.
5. If patient regains pulse, assist respirations, monitor pulse and turn off AED (unless AED's instruction manual contradicts this). If patient arrests again, the AED should be programmed to defibrillate at the level which was previously successful, if applicable to specific AED.

6. If the patient remains in cardiac arrest, continue CPR for at least 60 seconds *(more?)*, then repeat sequence of 3 shocks at the maximum Joules for this patient if possible. Transport, **then** contact Medical Control.

7. If a Critical Care/Paramedic arrives with manual defibrillation capabilities, discontinue the AED and use the manual defibrillator according to the appropriate protocol. Any defibrillations required by the protocol, which have already been given by the AED, need not be repeated. (Continue with treatment called for in protocol following the initial defibrillations).

*__NOTE:__ If patient has been down for 5 minutes or longer, current literature suggests doing 3 min of CPR prior to defibrillations.

Red 5

Pediatric AED Use

The main steps of AED use are the same for children as for adults with these additional points:

(AED is not recommended by the AHA in infants less than one year of age because there is not enough information about use of AEDs in this age group)

1. Check for response. If no response, request ALS.
2. Begin CPR. Continue pediatric CPR for one minute before use of AED.
3. If child does not respond and has no normal breathing or signs of circulation after one minute, use AED.
4. Turn power on. Attach pads to child's chest. Use the large “adult” pads for adults and for children 8 years of age and older. Use the smaller “child” pads (if available) for children less than 8 years of age. If only adult pads are available, place them so that they don’t overlap. Stay clear of the victim. Be sure no one is touching child while AED checks rhythm.
5. Follow AED machine's instruction, alternating sets of shocks with CPR until ALS assumes care.
6. If patient regains pulse, assist respiration if needed. If AED recommends further shocks, be clear of victim. If patient becomes responsive, turn off AED.
7. If Critical Care/Paramedic arrives with manual defibrillator capabilities, discontinue AED and use manual defibrillator according to protocol. Do not repeat

defibrillations already given by the AED.

Note: 1. Make sure the childs chest is dry and the child is in a dry area.
2. Use clearly marked child pads. If not available, use adult pads and place them so they don't overlap.

Cardiac Arrest or Arrhythmias

BASIC

1. O2 as appropriate. Ventilate if patient is in respiratory arrest.
2. CPR if cardiac arrest.
3. Attach AED if cardiac arrest (Page Red 5). If patient has been down for 5 minutes or longer, current literature suggests 3 min of CPR prior to defibrillation.
4. Request ALS if available.

INTERMEDIATE/CRITICAL CARE/PARAMEDIC

5. Cardiac monitor and treat arrhythmias following the appropriate algorithm and your training and level of licensure.
   a. Ventricular Fibrillation (Red 7).
   b. Ventricular Tachycardia (Red 7 or 9).
   c. Asystole (Red 11).
   d. Pulseless Electrical Activity (Red12).
   e. Bradyarrhythmias and Heart Block (Red 14).
   f. Supraventricular Tachycardia (Red 16).
   g. Premature Ventricular Ectopy (PVCs) (Red 17).
6. Advanced airway as needed, “See Blue 1,” and establish IV (Intermediates en route), per specific arrhythmia protocol.

Note: The algorithms for cardiac arrest or arrhythmias in the following pages reflect the MEMS Medical Direction and Practice Board’s interpretation of ACLS guidelines, as they should be used in the prehospital setting.

Guidelines to the prehospital use of 12-lead EKG by the ALS provider (Intermediate, Critical Care or Paramedic)

1. Prehospital 12-lead EKG is intended as an optional device and is encouraged for increasing diagnostic information regarding he chest pain/cardiac patient.
2. Acquisition of a 12-lead EKG should be considered in all patients with chest pain or a potential cardiac complaint/diagnosis.
3. **Acquisition of the 12-lead EKG should not delay patient transport or the initiation of chest pain/cardiac treatment protocols.**
4. Transmission of 12-lead EKG or presentation of prehospital 12-lead EKG to treating personnel at the receiving ED, is intended to augment patient triage and facilitate rapid identification of a potential thrombolytic or PCI candidate.

VENTRICULAR FIBRILLATION/PULSELESS VENTRICULAR TACHYCARDIA

Only recommended add before defibrillation:

Note: If patient has been down 5 minutes or longer current literature suggests 3 minutes of CPR prior to defibrillation.

No other changes

Red 9

WIDE COMPLEX TACHYCARDIA (PROBABLE VENTRICULAR TACHYCARDIA)

Wide complex tachycardia

Left column, first option, in both cases, whether the heart rate is over *or* under 150, is that the provider has to contact Medical Control. Change to "BP > 100, alert/comfortable contact Medical Control."

Still in the first column, lidocaine has two asterisks next to it that should be removed,

Middle column section A should have Diazepam changed to the Lorazepam/Midazolam as found under seizure:

> Adult: Midazolam (Versed) 3-5 mg IV; or lorazepam (Ativan) 2-4 mg IV. Call Medical Control if unable to establish IV or if repeat dose necessary.

ASYSTOLE

No changes

PULSELESS ELECTRICAL ACTIVITY

Red 13

First bullet for contacting medical control, under letter B: “Consider for unknown down time, irreversible signs of death, no response after 10 minutes of efforts, or unwitnessed arrest event for consideration of termination of efforts.”

The bullet at the bottom of this page should actually be an asterisk, to link it to the "intubate if possible" asterisk on page Red 12 and the final reference should be “See Blue 2.”

BRADYCARDIA

No changes

SUPRAVENTRICULAR TACHYCARDIA

No changes

PREMATURE VENTRICULAR ECTOPY (PVCs)

No changes unless people have strong feelings about amiodarone

---

CARDIOGENIC SHOCK

No changes

Gold

Allergy/Anaphylaxis (Gold 1)

Basic

[Insert ability of Basics to administer Epi per recent protocol]

Intermediate

[Suspect no change]

Critical Care/Paramedic

1. Advanced Airway as needed, “See Blue 1”
2. For SEVERE Reaction (life threatening respiratory compromise or B/P < 100 mm Hg):
   a. Epinephrine as follows:
      i. Adult: 0.3 mg (0.3 ml of 1:1,000) IM
      ii. Pediatric: 0.01 mg/kg (0.01 ml/kg of 1:1,000) IM to a maximum dose of 0.3 mg
   b. Diphenhydramine (Benadryl) 25-50 mg IV or IM
   c. Albuterol 2.5 mg by nebulizer; consider repeat times 1 if needed or Nebulizer of 5 cc of 1:1,000 epinephrine

Contact Medical Control for repeat options

Seizures (Gold 5)

Basic
[No change]

Intermediate
[No change]

Critical Care/Paramedic
9. Adult: Midazolam (Versed) 3-5 mg IV; or lorazepam (Ativan) 2-4 mg IV. Call Medical Control if unable to establish IV or if repeat dose necessary.

10. Pediatric: Midazolam (Versed) 0.2 mg/kg IV maximum 4 mg; or lorazepam (Ativan) 0.05 mg/kg IV with a maximum of 2 mg. Contact Medical Control if repeat dosing is necessary.
11. Pediatric Rectal/Buccal Medication: Lorazepam or Midazolam. Contact Medical Control if repeat dosing necessary.
12. Consider the following OPTIONS:

Adult

A. Naoloxone (Narcan) 0.1-2 mg IV/IM/ET
B. Thiamine 100 mg IV/IM
C. IV Dextrose 20 grams if serum blood glucose < 80 mg/dl
D. Glucagon 1 mg IM if IV not available for necessary IV Dextrose

Contact Medical Control if repeat of any of these options is necessary.

Pediatrics

E. Naoloxone (Narcan) 0.1-2 mg IV/IM/IO/ET(only give if respirations <12 per minute, titrate to improve respiratory drive; patients abruptly fully awakened may become combative, or suffer acute narcotic withdrawal symptoms). Some drugs may require high doses such as propoxyphene, Talwin, or Methadone.
F. Dextrose 10% (dilute 1 ml of D50 in 4 ml of IV fluid or use pre-mix) 5 ml/kg IV/IO
G. Glucagon 0.5 mg IM if IV or IO not available for necessary IV Dextrose

Contact Medical Control if repeat of any of these options is necessary.

Adult Coma (Gold 3)

Basic – delete ‘as appropriate’ from #2

Paramedic – section 9, Paragraph C: change to ‘Naloxone (Narcan) 0.4-2.0mg IV, IM, ET, (only give if respirations <12 per minute, titrate to improve respiratory drive; patients abruptly fully awakened may become combative, or suffer acute narcotic withdrawal symptoms). Some drugs may require high doses such as propoxyphene, Talwin, or Methadone.

Diabetic Emergencies, Critical Care/ Paramedic (Gold 4)

Paragraph ‘C’

Pediatric - 10% Dextrose (1ml D_{50} in 4ml IV fluid, or pre-mix) IV or IO, according to the following table:

Weight (Kg/Lbs)	Volume infused
10/22	50ml
20/44	100 ml
30/66	150 ml
40/88	200 ml

If IV/IO not available, Glucagon, 0.5mg IM.

7. says "... is less *that* 80" and should read "is less *than* 80."

Stroke Checklist

Add to bold text: If patient awoke with symptoms, this time will be when the patient went to sleep.

Green Section – Trauma

1. Green 1 – 2 Landing Zone – confirm with LOM – otherwise no changes and change “TDA”in the box to “LZ”
2. Green 3-4 Trauma Triage:
    a. *In the second box which says “Calculate the Revised Trauma Score,” should we also refer them to Green 9 so that they can see how to calculate this?*
    b. In the box “Assessment #2,” add “Flail Chest” as point “h”
    c. In the box “Assessment #3,” add the following list:
        i. Ejection from the automobile
        ii. Associated fatality in the same vehicle
        iii. Extrication time > 20 minutes
        iv. Falls > 20 feet
        v. Rollover
        vi. Auto-ped or auto-bike with > 5 mph impact
        vii. Pedestrian thrown or run over
        viii. Motorcycle crash > 20 mph or with separation of rider from cycle
        ix. High speed auto crash
            1. Initial speed> 40mph
            2. Major auto deformity > 20 inches
            3. Intrusion into passenger compartment > 12 inches

3. Add new box “Assessment #4” which lists the following high-risk indicators
    a. Age < 5 or > 55
    b. Cardiac or respiratory disease
    c. IDDM, cirrhosis or morbid obesity
    d. Pregnancy
    e. Immunosuppressed patients
    f. Patient with bleeding disorder or on anticoagulant

4. All boxes should have their “No” arrows ending on the “Transport to trauma system participating hospital” box and all “Yes” arrows ending on “Contact OLMC.”
5. Green 5: Delete “1” and then section “2” becomes “1” and “3” becomes “2.” Delete the paragraph beginning “In most circumstances…”
6. Spine Assessment – no change
7. GCS, RTS, and PTS – no change
8. Tension pneumothorax: Delete the last sentence, “If catheter is to be left…”
9. Amputations,
10. Head trauma: Line 2-- “O_2 as appropriate. Support ventilation and not to exceed 18 breaths per minute.” Line 10—“Hyperventilate at 20 breaths per minute if GCS is decreasing—if end-tidal CO_2 available, titrate ventilations to a CO_2 level of 34-38.”
11. Hypovolemic shock: Line 6—“ If shock present which in an adult is a B/P less than 90, then give a fluid challenge. Contact OLMC if patient is > 65 years of age for IVF order.”

Pain Management/Analgesia (Green 17):

Basic

1. Reassurance
2. Splinting as needed, with inline stabilization. Consider ice application in isolated extremity trauma if hypothermia/frostbite not an issue.

Intermediate

3. Consider IV access for consideration of Critical Care/Paramedic administration of narcotics or antiemetics.

Critical Care/Paramedic

4. Isolated Extremity Trauma may invoke use of the following, otherwise go to number “5”
    a. For isolated extremity trauma, consider the use of Morphine Sulfate 2-10 mg IV titrated to effect—may repeat every 5 minutes to a total to 15 mg as long as vital signs are stable. If dosage question (such as in pediatrics), abnormal vital signs, coincident drug use (including alcohol) by

patient, if IV cannot be established or if not isolated extremity trauma, contact medical control before administering medication.

b. If nausea or vomiting, administer promethazine (Phenergan) 12.5 mg IV and may repeat times 1 in 10 minutes if needed. If dosage question (such as in pediatrics), abnormal vital signs, coincident drug use (including alcohol) by patient, if IV cannot be established or if not isolated extremity trauma, contact medical control before administering medication.

5. If patient with multiple trauma or isolated trauma involving head, spine, or torso (including thorax, abdomen, and pelvis), then **Contact On-Line Medical Control** before use of any narcotic, antiemetic, or anxiolytic. Use narcotics, antiemetics, and anxiolytics with caution in pediatrics, in those with hypotension or bradypnea, or if coincident drug use (including alcohol) by patient. If IV cannot be established, medical control can help with IM drug doses.
   a. Consider the use of Morphine Sulfate 2-10 mg IV titrated to effect—may repeat every 5 minutes to a total to 15 mg as long as vital signs are stable.
   b. If nausea or vomiting, administer promethazine (Phenergan) 12.5 mg IV and may repeat times 1 in 10 minutes if needed.
   c. Self-administered fixed dose of 50% nitrous oxide/oxygen mixture delivered by commercially-available device (such as Nitronox).

Yellow

Yellow 1-2---I would think increased reference to Poison Control phone number at the ends of each section of toxins.

Yellow 1, Yellow 3 and Yellow 4—“Call Poison Control (1-800-222-1222) to receive guidance on patient care and so that the information on the toxin can be faxed to ED prior to patient’s arrival.”

Yellow 4

Last sentence of page—“2. Administer Sodium Bicarbonate 1 mEq/kg IV, and contact OLMC if further direction needed for conditions such as arrhythmias.”

Yellow 5-- 1. Administer O_2 as appropriate
2. Secure open airway by (positioning) or (airway maneuvers) ie (chin lift or jaw thrust) as appropriate. Refer to Blue 1.
3. Request ALS if available

Hypothermia (Yellow 7-11)
We are predicating treatment based on rectal temperature.

Mild Hypothermia

Assessment: Reduced core temperature to 90º to 95º F (32º-35º C) with a shell to core shunt:

- Cool, pale, cyanotic skin
- Cold diuresis
- Reduced shell function causing clumsiness with fine motor tasks
- Cardiac function is stable
- Shivering
- Abnormal mental status

Treatment:

Basic
Since mild hypothermia causes no significant cardiac instability, any method of field rewarming is generally safe.

1. Field rewarming:
    a. Reduce the cold challenge by protecting the patient from the cold environment by insulating from the ground, protect from the wind, and eliminate heat loss by evaporation by removing wet clothing once sheltered.
    b. Reverse the cold challenge by adding external heat and moving the patient to a warm environment. External heat may be added by placing heat packs at axilla, groin, head, and neck—be sure to protect cold skin from direct contact with hot packs.
    c. Administer humidified oxygen [heated to a maximum of 108ºF (42ºC)]—heating oxygen without humidifying will not aid in rewarming.
    d. Increase heat retention by adding insulation. Remember to insulate the head and neck and cover the patient with a vapor barrier, such as a large plastic tarp or large plastic bag—do not cover the face. You may cover the patient's face with a light fabric to reduce heat loss.
    e. Increase intrinsic heat production by light exercise if the patient is dry. Calorie stores must be adequate
    f. If the patient can safely swallow and protect his airway, increase calorie stores by giving liquid laced with sugar—sugar is more important than the temperature of the liquid. Do not allow alcohol or tobacco use.
2. Treat associated conditions

3. Treat cardiac problems and cardiac arrest as per normothermic protocols.

Intermediate/Critical Care/Paramedic

4. Warmed IV fluid may be necessary, and give as bolus therapy (250 cc in normal adult; 20 cc/kg in peds), with repeat times 1 if necessary. Use normal saline heated to 104º-108º F (40º-42ºC). Contact medical control if a 3rd bolus is necessary.

Moderate to Severe Hypothermia with Signs of Life (Pulse or Respirations)

Assessment

Moderate Hypothermia: Reduced core temperature to 82º to 90º F (28º-32ºC) and patient's ability to rewarm without external heat source is limited.

- Cold, pale, beginning of cyanosis
- Cold diuresis
- Resuscitation efforts (such as CPR) follow normothermic guidelines if the core temperature is above 86º F (30º C)
- Below 86ºF (30ºC), shivering stops
- Loss of consciousness

Severe Hypothermia: Reduced core temperature below 82ºF (28ºC) and patient has no ability to rewarm without external heat source

- Cold, frozen, pale, cyanotic skin, rigidity
- Unconscious
- Vital signs reduced or absent
- Severe risk of mechanically stimulated ventricular fibrillation (VF)
- Below 77ºF (25ºC), spontaneous ventricular fibrillation/cardiac arrest

Treatment

The severely cold heart is sensitive to a variety of stimuli, and fatal arrhythmias can be caused by incorrect or carelessly applied treatment efforts. As well, these patients can be saved by immediate and aggressive internal rewarming techniques—Contact OLMC immediately.

Basic

1. Treat patients very gently—Do Not rub or manipulate extremities, or attempt to remove wet clothing without cutting them off.
2. Treat as per "Mild Hypothermia," but with the following changes
    a. Do Not allow the patient to sit or stand until rewarmed

b. Do Not give the patient oral fluids or food
c. Do Not attempt to increase heat production with light or any exercise

Intermediate/Critical Care/Paramedic

3. Warmed IV fluid may be necessary, and give as bolus therapy (250-500 cc in normal adult; 20 cc/kg in peds), with repeat times 1 if necessary. Use normal saline heated to 104º-108º F (40º-42ºC) if possible. Contact medical control if a 3rd bolus is necessary.

Severe Hypothermia with No Signs of Life (or Moderate with Temp < 86º F)

Assessment: As above for "Severe Hypothermia," but no pulse or respirations are found. Check for pulse and respirations for 60 seconds.

Resuscitation should not be initiated if the following conditions are found:

1. Submerged in cold water for more than 1 hour
2. Core temperature of less than 50ºF (10ºC)
3. Obvious fatal injuries, such as decapitation
4. Frozen body (not just peripheral frostbite), such as ice formation in the airway
5. Chest wall so stiff that compressions for CPR not possible
6. Rescuers exhausted of in dangerous situation.

Treatment

The severely cold heart is sensitive to a variety of stimuli, and fatal arrhythmias can be caused by incorrect or carelessly applied treatment efforts. As well, these patients can be saved by immediate and aggressive internal rewarming techniques—Contact OLMC immediately.

Basic

3. If the patient is not breathing, give 3 minutes of rescue breathing after the initial 60 second pulse/respiration check. After 3 minutes, check for pulse and respirations again for 60 seconds. If the patient is not breathing and has no pulse, start chest compressions only if transportation is not available within 3 hours.
4. For rescue breathing, use mouth-to-mask breathing or bag-valve-mask breathing at a reduced rate to prevent hyperventilation—consider ventilating the adult patient at 6 breaths per minute (1/2 the normal rescue breathing rate)
5. If the rescuers are authorized to use an Automated External Defibrillator (AED), then it is OK to proceed with one set of stacked shocks if the machine deems that this is indicated. If the core temperature cannot be determined or is above 86ºC,

then follow guidelines for resuscitation as if the patient were normothermic. If the patient's core temperature is below 86º F (30º C), discontinue use of AED after the initial 3 shocks until the patient's core temperature has reached 86º F (30ºC).

6. If CPR has been provided in conjunction with rewarming techniques for more then 30 minutes without the return of spontaneous pulse or respiration, contact medical control for recommendations. If contact with medical control is not possible, consider termination of resuscitation efforts after 60 minutes of CPR if no return of spontaneous pulse or respiration, and contact medical control as soon as possible.

Intermediate

7. Warmed IV fluid may be necessary, and give as bolus therapy (250-500 cc in normal adult; 20 cc/kg in peds), with repeat times 1 if necessary. Use normal saline heated to 104º-108º F (40º-42ºC) if possible. Contact medical control if a 3rd bolus is necessary.
8. If an advanced airway device needs to be placed (indications the same in normothermic and hypothermic patients), preoxygenate and adequately ventilate for 3 minutes prior to placement of device. Also, avoid hyperventilation as noted above—give 6 breaths per minute in an adult (1/2 the normal breathing rate).

Critical Care/Paramedic

9. If ventricular fibrillation is present on the monitor, then one series of stacked defibrillations is OK. Shivering can mimic ventricular fibrillation. If the core temperature cannot be determined or is above 86ºC, then follow guidelines for resuscitation as if the patient were normothermic. If the patient's core temperature is below 86º F (30º C), discontinue defibrillation after the initial 3 shocks until the patient's core temperature has reached 86º F (30ºC).
10. Antiarrhythmic medication or cardiac medications in general should be held until the patient is warm (> 86º F) and undergoing rewarming.
11. If resuscitation has been provided in conjunction with rewarming techniques for more than 30 minutes without the return of spontaneous pulse or respiration, contact Medical Control for recommendations. If contact with Medical Control is not possible, consider termination of resuscitative efforts and contact medical control as soon as possible.

Last Yellow page (these next three are completely new)

Ophthalmology
Paramedic Level: Eye pain: Proparacaine ophthalmologic drops 2 drops PRN to affected eye, with continuous irrigation with sterile NS if chemical exposure.

Sexual Assault Victim

All levels

1. Treat any life-threatening emergency first and according to these protocols.
2. Try to attend to maintenance of forensic evidence. Try not to cut through tears of stains in clothing. Do not cleanse any skin area more than necessary to provide immediate care.
3. If the patient so desires and/or mandated reporting is indicated, police should be called if they have not already been notified.
4. If no life-threatening situation is present, prehospital care may require waiting for police to secure the scene which is a potential crime scene.
5. Victims of sexual assault commonly have much guilt, and please respect the stress that they are enduring. They may require much psychological support.
6. By nature of this event, any touch may be traumatic for this patient. Overtly and repeatedly explain what you are doing to try to lessen the impact of procedures and touching.
7. Advise the patient not to eat, drink, smoke, bathe, change clothing or go to the bathroom if at all possible in order to preserve any forensic evidence. If they must urinate, request that they do not wipe.
8. If the patient has removed any clothing worn in the assault, each piece of clothing should be separately bagged in paper bags and brought to the hospital with the patient.
9. When transporting the patient, it is preferable whenever possible to have a same sex provider as the primary provider. If the assault is a same sex assault, then a provider of the opposite sex may be more comfortable for the patient.
10. To maintain privacy and confidentiality, use a landline for hospital reporting whenever possible and do not clarify the type of assault, only that you are transporting a “victim of assault.”
11. The patient should be encouraged to go to the hospital for a sexual assault forensic examination that would allow not only the option to have collection of forensic evidence, but also treatment of possible injuries and the chance to obtain

pregnancy and sexually transmitted disease prophylactic treatment.

12. If the patient refuses treatment and/or transportation to the hospital, document all findings and observations as completely as possible. When signing the patient off at the scene, try to have a police officer witness this sign off.

Child Abuse Management and Reporting

All levels

- Child abuse and child neglect is sufficiently widespread to guarantee that virtually every EMS provider will encounter it at least once during his/her career.
- It is estimated that approximately 2-3 million cases occur each year or approximately 11 cases per every 1,000 children within the U.S. Each year at least 2,000 children die from physical abuse.
- The most commonly identified forms of abuse by the EMS provider are physical abuse and severe physical neglect although sexual abuse may on occasion be observed.
- The EMS provider must at all times demonstrate and maintain a supportive and non-judgmental attitude with primary caregivers. Accusation and confrontation delay immediate treatment as well as transportation to a definitive care facility.
- When abuse is a possibility the healthcare professional has two major responsibilities: first, to provide medical care to the child; and second, to collect and document all information that may possibly establish the occurrence of abuse or neglect. Refrain from asking the child too many questions and specifically do not ask any leading questions—keep questions simple and open-ended such as “What happened?” and “Are you hurt?”
- As an EMS provider, you must report immediately to Child Protective Services any child who you have “reasonable cause to suspect” has been abused or will be abused. Failure to do so is punishable as a civil violation. It is not enough to tell someone else of your suspicions. If a child is abused and unreported, there is a 50% chance that the child will be abused again and a 10% chance that the child will die from future abuse. (Title 22, Subchapter II, Subsection 4011)

Possible Indicators of Abuse

1. Injured child under two years of age, especially hot water burns or fractures
2. Facial, mouth, or genital injuries

3. Multi-planar injuries (front and back, right and left)—especially when not over bony prominences
4. Poor nutrition or poor care
5. Delay in seeking treatment
6. Vague, inconsistent, or changing history
7. The comatose child, the child in shock, or the child in arrest.

“See Pink 9”

Treatment of suspected child abuse in the field

1. Suspect abuse but do not accuse the caretaker. Every time a child is encountered by the healthcare professional having a traumatic injury the question that should come to mind is, “Could this be abuse?” In most cases the answer will be an obvious “no;” however, enough uncertainty will exist in some cases to warrant further assessment.
2. Follow normal initial assessment priorities of the ABC’s and mental status when caring for the child.
3. Provide the appropriate intervention procedures for any abnormal findings such as respiratory, trauma, or other medical emergencies; shock; or altered mental status.
4. EMS providers are in key positions to assess environmental conditions and the observable interactions of family and child. Environmental signs of possible abuse or neglect may include but not be limited to: unsanitary conditions; garbage scattered about the house; unsafe conditions such as open, unguarded windows or potentially dangerous objects within reach of children
5. Perform a detailed physical examination on any child in stable enough condition to allow for such. Examine all parts of the body for deformities, ecchymosis, lacerations, abrasions, punctures, burns, tenderness, and swelling. It is vitally important that injuries of the mouth and sternum be observed in detail prior to the initiation of resuscitative measures and documented that such injuries were found prior to resuscitation.
6. It is important to transport all children having evidence of abuse or neglect due to the possibility of additional injuries not immediately obvious. Transport of potentially abused or neglected children ensures that they receive the appropriate and necessary social services. Assistance may be necessary from law enforcement, medical control, etc.
7. Convey your impressions and information to the hospital staff.
8. Write a detailed and descriptive report which provides an accurate and clear record of all observations and treatment from the time of the initial call through transfer of the patient to the ED staff. Do not make a diagnosis of abuse, and refrain from including personal opinions, emotional overtones, or interpretations.

Primary caregiver quoted statements must be documented as such with quotation marks, and exactly word for word as stated by the person. As well, this legal document must be legible.

9. Contact Adult and Children's Emergency Services at 1-800-452-1999 to make a report. This is a 24-hour a day reporting number. You will be protected by law from civil liability for making such a report if made in good faith.

Pink

Pink 1,3—

Pediatric - 10% Dextrose (1ml D_{50} in 4ml IV fluid, or pre-mix) IV or IO, according to the following table:

Weight (Kg/Lbs)	Volume infused
10/22	50ml
20/44	100 ml
30/66	150 ml
40/88	200 ml

Pink 2,3 (Seizures)—
10. (Omit Diazepam) Pediatric: Midazolam (Versed) 0.2 mg/kg IV maximum 4 mg; or lorazepam (Ativan) 0.05 mg/kg IV with a maximum of 2 mg. Contact Medical Control if repeat dosing is necessary.
Pediatric Rectal/Buccal Medication: Lorazepam or Midazolam. Contact Medical Control if repeat dosing necessary. (I'm working on this!)
11. Add this Naloxone phrase at the end of Part A. "(only give if respirations <12 per minute, titrate to improve respiratory drive; patients abruptly fully awakened may become combative, or suffer acute narcotic withdrawal symptoms). Some drugs may require high doses such as propoxyphene, Talwin, or Methadone. "

Pink 3

Also on this page, the bullet at the bottom is actually referring back to an asterisk, so the bullet should be changed to an asterisk instead.

Pink 4 Number 5—"use of Sellick's maneuver (cricoid pressure) to…"

Pink 7--Basis should be spelled Basic

Pink 7 Number 8—Omit needle cricothyrotomy and refer reader

to “Blue 1.”

Pink 8--Introduction should state "circulatory collapse" is near, not death is near-- to focus on the need to support circulation.

Pink 8--Basis should say Basic.

Pink 9—Rewrite the opening line as follows: “Pediatric cardiac dysfunction is usually due to a respiratory cause and is thus more likely to initially respond to effective...”

Pink 9--Basis should be spelled Basic.

Between Pink 9 and 10--Pediatric AED

(AED is not recommended by the AHA in infants less than one year of age because there is not enough information about use of AEDs in this age group)

1. Check for response. If no response, request ALS.
2. Begin CPR. Continue pediatric CPR for one minute before use of AED.
3. If child does not respond and has no normal breathing or signs of circulation after one minute, use AED.
4. Turn power on. Attach pads to child's chest. Use child pads for children age 1-8. Clear of the victim. Be sure no one is touching child while AED checks rhythm.
5. Follow AED machine's instruction, alternating sets of shocks with CPR until ALS assumes care.
6. If patient regains pulse, assist respiration if needed. If AED recommends further shocks, be clear of victim. If patient becomes responsive, turn off AED.
7. If Critical Care/Paramedic arrives with manual defibrillator capabilities, discontinue AED and use manual defibrillator according to protocol. Do not repeat defibrillations already given by the AED.

Note: 1. Make sure the child’s chest is dry and the child is in a dry area.
2. Use clearly marked child pads. If not available, use adult pads and place them so they don't overlap.

Pink 10--Epinephrine dose by ET in PALS is (1:10,000)--

.01mg/kg or 0.1 ml/kg

Pink 13 Number 5c--should say “< 60:begin compressions…”

Grey

Grey 2

A.1.a. Mentions Comfort Care/DNR Bracelet or "Necklance" instead of "necklace."

Grey 8

2A. Add “Hazmat”

Consider Sieve and sort post Hazmat under responsibilities of Primary Triage Officer.

Grey 10

Incident—if Hot Zone, everything moves back and need decon line

Grey 14

Need to correct arrow diagram

Grey 15

Top line has an asterisk, as if it's a footnote referring to something from above, but has no point of reference. I believe it belongs in the box marked "Incompetent patient transport."

Grey 16

First paragraph, second line currently reads "... in one or two situations..." should read "... in one *of* two situations..."

Second paragraph under Emergency Transport heading, fourth line, says "... use physical restraint as a last resort, preferable with the assistance..." Preferable should read "preferably."

Grey 17
…After 11 pm and before 7 am the papers do not have to be signed except for Riverview Psychiatric Center (formerly AMHI)—this is known as the pajama clause.

Grey 18

(second sentence)... second on scene unless a Maine…

Grey 20

(bottom disclaimer) For biphasic … use monophasic equivalents as noted above on the specific biphasic machines

Grey 21

Phenergan adult dose is listed as "12.5 o 25 mg” so put as “12.5 or 25 mg IV.”

Grey 22

Add LMA Sizes

1	Neonates/Infants
1.5	Infants between 5-10 kg
2	Infants/children 10-20 kg
2.5	Children 20-30 kg
3	Children/small adults over 30 kg
4	Normal and Large adults
5	Large Adults

Grey 22

(3rd sentence from bottom)… and the Broselow-Hinkle tape…

Grey 24

Dopamine says it makes "1600 mcg ml" -- should read "mcg/ml"

Grey 25

update lists per med changes and PIFT revamp

Black

Black 1

If you are … the EMTs…
This requires that you … and (not or) that their Medical Control…

This ends the protocol changes

Modifications

- As noted above, with one clarification that deserves a note. The hypothermia proposals are as stated with a primary vote being recalled by Dr. Collamore and second by Dr. Liebow. Eventual language is as stated. This is noteworthy because Dr. Liebow kindly supported Dr. Collamore's recall of the first modification although his sentiments did not change, but he felt any final vote should not be passed incorrectly because of a snafu in protocol. Thank you Dr. Liebow.
- I did add a line in the child abuse section to avoid asking children any leading questions.

Proposals that were not furthered as prehospital treatment

- IV Cimetidine: onset would not make a difference emergently
- IV Steroids: onset would not make a difference emergently
- Steroid Inhaler/Neb: current data shows onset would not make a difference emergently—FYI, this may be changing
- Glucoscan as Basic EMT Procedure: no champion
- ACE inhibitor use in pulmonary edema: until we can adequately screen for AS (especially if this is the primary cause for pulmonary edema), this would not be considered safe at this point. As well, if patient is on ACE inhibitor or ARB, then additional dosing is also not incredibly effective.
- Addition of Amiodarone.

Other Business

1. Language to describe appropriate level of Transport: Diaz has been approached to see if we can place language so that medic contact does not necessitate medic as part of transport team. Azarra will get data and Bradshaw will ask AG.

2. Question of how do we beef up ED provider knowledge of medical control—Kendall will try to get ACEP behind this.

Final thoughts…

Thanks to everyone for their input and help. Third Wednesday of June, June 16 will be a PIFT meeting and third Wednesday in July, July 21 will be MDPB. Below is some food for thought so that we all can recognize some issues.

1) Amiodarone is used exclusively in some EDs, as is lidocaine. We may want to reconsider having both options. It is $5 for 300 mg.
2) Kevin's JAMA study (JAMA,3/19/2003, 289(11), Author: Wik, pp. 1389-1395) for three minutes of CPR before AED with > 5minutes of down time is going along with the trend that prehospital CPR, response time, and AED are key. Response time is most important, AED within time "x," and CPR always. This is the only study with the parameters of 5 minutes or greater with 3 minutes of CPR first and 3 minutes of CPR between every shock--and it had some crafty statistics. The regression analysis looked at components that seemed to show a difference and then fed these parameters back into the paper's data. I did not completely understand it and the first time I saw this paper I was dismissive because the graph did not make sense (one of my reading rules). One of the statistical extrapolations from the Wik paper showed that those who were down greater than 8 minutes would have superior outcomes compared to those found quickly where it has been shown that CPR first or AED are equivalent—something funny happened when they added term interpretation (look at the chart) and this is what the soon to be mentioned gurus tried to help me with; in their estimation, this greatly weakened the paper. Just to shed some light on this, I asked for guidance from Rick Bukata, Michael Heller, Jerry Hoffman, and Bill Mallon. Although not data dredging it is very close. Could this hypothesis be true? I think so, but I am not certain and all the different parameters have yet to be worked out, especially time. Three minutes of CPR with three minutes of CPR between every intervention was this study group. I have highlighted parts of our protocols that would go against this. Time "x" is very undetermined. To that end, Ian Stiell has commented on these issues, and we know that CPR for 20 seconds in those who are down a "long time" is inferior to longer CPR, but this time is not well delineated. Seattle came up with 90 seconds after 4 minutes of down time (retrospective), and Wik has not had any support for this singular study. It may be 1 minute, 2 minutes, etc. Let's think about this, because having first responders continuing CPR for 3 minutes in lieu of defibrillation a little earlier (why not 90 seconds)

may not be the right answer—only one article suggests this, and at the very least we may want to be careful how we word our reference to the literature. It may be that we have them perform CPR for "x" amount of time IF bystander CPR has not been initiated and continued upon Rescue's arrival. The AHA may be coming out with something along this line, but I believe they will find 3 minutes long (it will be interesting to see how they rate these articles). This group gave this article a no rating, and believe further study is needed (in line with Cobb and Stiell) and Bukata was asked to weigh in on this issue with LA County EMS and their medical directors are not going to move on this at this time. Food for thought…

3) Another point is to put all attendees on the same page. Apples and oranges can be our reference point for evidence-based and literature. Evidence-based is original research which withstands the test of Koch's postulate and the premise describes good methods which can be duplicated. Literature is just written language that in much of medicine is consensus opinion (such as AHA) or loose cannons—i.e. opinions (I do not exclude myself). The goal to learn here is where did they get their evidence. We have been just in meeting the AHA with a careful eye, and I believe that not everyone always clearly separates good evidence-based study from consensus literature. Evidence would be the original articles (e.g., JB's projects), and most of them are narrow in what they are addressing (which is good). This is just meant to clear up some language use which came out in the meeting of last which I believe put us on different wave lengths at times.
4) This brings me to an idea for dispersion of info prior to meetings. Rather than having to play catch up afterwards, perhaps ideas that are floated which rely on critical articles could be dispersed (the articles, that is) prior to our meetings. If it is an e-mailable thing, get it to me and I will get it to others. If it must be by snail mail, perhaps the Maine EMS office could help us (is this OK Jay?). This will allow everyone to read the article and form opinions, ask for clarification, etc. before we force the issue. Please give me your feedback on this as well.
5) Do we need to add another option for narcotics since we took Demerol away (appropriately I believe)? Medic feedback has disclosed that they go to other options frequently.
6) I have taken some liberties with Jacky's comments so please read this well to be sure I did not make any mistakes.

Steve